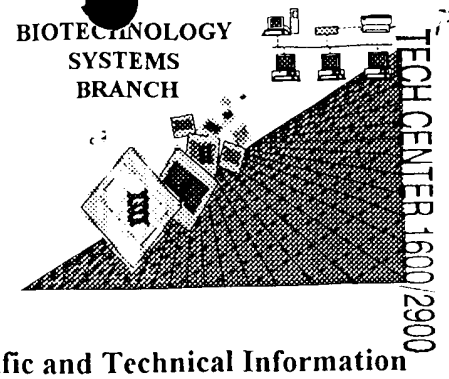
BIOTECHNOLOGY
SYSTEMS
BRANCH



TECH CENTER 1600/2900

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RAW SEQUENCE LISTING ERROR REPORT

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Application Serial Number: 09/500,135A

Source: 1644

Date Processed by STIC: 7/9/2001

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1644

RAW SEQUENCE LISTING DATE: 07/09/2001
PATENT APPLICATION: **US/09/500,135A** TIME: 13:21:49

Input Set : **A:\GC527C1seqlist.txt**
Output Set: **N:\CRF3\07092001\I500135A.raw**

pp 4-5

<110> APPLICANT: Estell, David
Harding, Fiona
<120> TITLE OF INVENTION: PROTEINS PRODUCING AN ALTERED IMMUNOGENIC RESPONSE AND METHODS OF MAKING AND USING THE SAME
<130> FILE REFERENCE: A-68893/DJB/DAV
<140> CURRENT APPLICATION NUMBER: 09/500,135A
<141> CURRENT FILING DATE: 2000-02-08
<150> PRIOR APPLICATION NUMBER: 09/060,872
<151> PRIOR FILING DATE: 1998-04-15
<160> NUMBER OF SEQ ID NOS: 236
<170> SOFTWARE: PatentIn Ver. 2.1
<210> SEQ ID NO: 1
<211> LENGTH: 1495
<212> TYPE: DNA
<213> ORGANISM: Bacillus amyloliquefaciens
<220> FEATURE:
<221> NAME/KEY: mat_peptide
<222> LOCATION: (417)..(1495)
<220> FEATURE:
<221> NAME/KEY: CDS
<222> LOCATION: (96)..(1244)
<220> FEATURE:
<221> NAME/KEY: misc_feature
<222> LOCATION: (582)..(584)
<223> OTHER INFORMATION: The nnn at positions 582 through 584 which in a preferred embodiment (aat) is to code for asparagine, but which may also code for proline.
<220> FEATURE:
<221> NAME/KEY: misc_feature
<222> LOCATION: (585)..(587)
<223> OTHER INFORMATION: The nnn at positions 585 through 587 which in a preferred embodiment (cct) is to code for proline, but which may also code for asparagine.
<220> FEATURE:
<221> NAME/KEY: misc_feature
<222> LOCATION: (597)..(599)
<223> OTHER INFORMATION: The nnn at positions 597 to 599 which in a preferred embodiment (aac) is to code for asparagine, but which may also code for aspartic acid.
<220> FEATURE:
<221> NAME/KEY: misc_feature
<222> LOCATION: (678)..(680)
<223> OTHER INFORMATION: The nnn at positions 678 through 680 which in a preferred embodiment (gca) is to code for alanine, but which may also code for serine.
<220> FEATURE:
<221> NAME/KEY: misc_feature

Does Not Comply
Corrected Diskette Needed

RAW SEQUENCE LISTING DATE: 07/09/2001
PATENT APPLICATION: **US/09/500,135A** TIME: 13:21:49

Input Set : **A:\GC527C1seqlist.txt**
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```
64 <222> LOCATION: (681)..(683)
65 <223> OTHER INFORMATION: The nnn at positions 681 through 683 which in a
66       preferred embodiment (tca) is to code for serine,
67       but which may also code for alanine.
69 <220> FEATURE:
70 <221> NAME/KEY: misc_feature
71 <222> LOCATION: (708)..(710)
72 <223> OTHER INFORMATION: The nnn at positions 708 through 710 which in a
73       preferred embodiment (gct) is to code for
74       alanine, but which may also code for aspartic acid.
76 <220> FEATURE:
77 <221> NAME/KEY: misc_feature
78 <222> LOCATION: (711)..(713)
79 <223> OTHER INFORMATION: The nnn at positions 711 through 713 which in a
80       preferred embodiment (gac) is to code for
81       aspartic acid, but which may also code for alanine.
83 <220> FEATURE:
84 <221> NAME/KEY: misc_feature
85 <222> LOCATION: (888)..(890)
86 <223> OTHER INFORMATION: The nnn at positions 888 through 890 which in a
87       preferred embodiment (act) is to code for
88       threonine, but which may also code for serine.
90 <220> FEATURE:
91 <221> NAME/KEY: misc_feature
92 <222> LOCATION: (891)..(893)
93 <223> OTHER INFORMATION: The nnn at positions 891 through 893 which in a
94       preferred embodiment (tcc) is to code for
95       serine, but which may also code for threonine.
97 <220> FEATURE:
98 <221> NAME/KEY: misc_feature
99 <222> LOCATION: (1167)..(1169)
100 <223> OTHER INFORMATION: The nnn at positions 1167 through 1169 which in
101       a preferred embodiment (gaa) is to code for
102       glutamic acid, but which may also code for glutamine.
104 <400> SEQUENCE: 1
105 ggtctactaa aatattattc catactatac aattaataca cagaataatc tgtctattgg 60
107 ttattctgca aatgaaaaaa aggagaggat aaaga atg aga ggc aaa aaa gta    113
108                                       Met Arg Gly Lys Lys Val
109                                         -105
111 tgg atc agt ttg ctg ttt gct tta gcg tta atc ttt acg atg gcg ttc   161
112 Trp Ile Ser Leu Leu Phe Ala Leu Ala Leu Ile Phe Thr Met Ala Phe
113    -100                -95                 -90
115 ggc agc aca tcc tct gcc cag gcg gca ggg aaa tca aac ggg gaa aag   209
116 Gly Ser Thr Ser Ser Ala Gln Ala Ala Gly Lys Ser Asn Gly Glu Lys
117 -85                 -80                 -75                 -70
119 aaa tat att gtc ggg ttt aaa cag aca atg agc acg atg agc gcc gct   257
120 Lys Tyr Ile Val Gly Phe Lys Gln Thr Met Ser Thr Met Ser Ala Ala
121                 -65                 -60                 -55
123 aag aag aaa gat gtc att tct gaa aaa ggc ggg aaa gtg caa aag caa   305
```

RAW SEQUENCE LISTING DATE: 07/09/2001
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```
    124 Lys Lys Lys Asp Val Ile Ser Glu Lys Gly Gly Lys Val Gln Lys Gln
    125             -50                 -45                 -40
    127 ttc aaa tat gta gac gca gct tca gct aca tta aac gaa aaa gct gta   353
    128 Phe Lys Tyr Val Asp Ala Ala Ser Ala Thr Leu Asn Glu Lys Ala Val
    129         -35                 -30                 -25
    131 aaa gaa ttg aaa aaa gac ccg agc gtc gct tac gtt gaa gaa gat cac   401
    132 Lys Glu Leu Lys Lys Asp Pro Ser Val Ala Tyr Val Glu Glu Asp His
    133     -20                 -15                 -10
    135 gta gca cat gcg tac gcg cag tcc gtg cct tac ggc gta tca caa att   449
    136 Val Ala His Ala Tyr Ala Gln Ser Val Pro Tyr Gly Val Ser Gln Ile
    137  -5              -1   1                   5                  10
    139 aaa gcc cct gct ctg cac tct caa ggc tac act gga tca aat gtt aaa   497
    140 Lys Ala Pro Ala Leu His Ser Gln Gly Tyr Thr Gly Ser Asn Val Lys
    141              15                  20                  25
    143 gta gcg gtt atc gac agc ggt atc gat tct tct cat cct gat tta aag   545
    144 Val Ala Val Ile Asp Ser Gly Ile Asp Ser Ser His Pro Asp Leu Lys
    145          30                  35                  40
W--> 147 gta gca ggc gga gcc agc atg gtt cct tct gaa aca nnn nnn ttc caa   593
W--> 148 Val Ala Gly Gly Ala Ser Met Val Pro Ser Glu Thr Xaa Xaa Phe Gln
    149      45                  50                  55
W--> 151 gac nnn aac tct cac gga act cac gtt gcc ggc aca gtt gcg gct ctt   641
W--> 152 Asp Xaa Asn Ser His Gly Thr His Val Ala Gly Thr Val Ala Ala Leu
    153  60                  65                  70                  75
W--> 155 aat aac tca atc ggt gta tta ggc gtt gcg cca agc nnn nnn ctt tac   689
W--> 156 Asn Asn Ser Ile Gly Val Leu Gly Val Ala Pro Ser Xaa Xaa Leu Tyr
    157                  80                  85                  90
W--> 159 gct gta aaa gtt ctc ggt nnn nnn ggt tcc ggc caa tac agc tgg atc   737
W--> 160 Ala Val Lys Val Leu Gly Xaa Xaa Gly Ser Gly Gln Tyr Ser Trp Ile
    161              95                  100                 105
    163 att aac gga atc gag tgg gcg atc gca aac aat atg gac gtt att aac   785
    164 Ile Asn Gly Ile Glu Trp Ala Ile Ala Asn Asn Met Asp Val Ile Asn
    165          110                 115                 120
    167 atg agc ctc ggc gga cct tct ggt tct gct gct tta aaa gcg gca gtt   833
    168 Met Ser Leu Gly Gly Pro Ser Gly Ser Ala Ala Leu Lys Ala Ala Val
    169      125                 130                 135
    171 gat aaa gcc gtt gca tcc ggc gtc gta gtc gtt gcg gca gcc ggt aac   881
    172 Asp Lys Ala Val Ala Ser Gly Val Val Val Val Ala Ala Ala Gly Asn
    173 140                 145                 150                 155
W--> 175 gaa ggc nnn nnn ggc agc tca agc aca gtg ggc tac cct ggt aaa tac   929
W--> 176 Glu Gly Xaa Xaa Gly Ser Ser Ser Thr Val Gly Tyr Pro Gly Lys Tyr
    177                 160                 165                 170
    179 cct tct gtc att gca gta ggc gct gtt gac agc agc aac caa aga gca   977
    180 Pro Ser Val Ile Ala Val Gly Ala Val Asp Ser Ser Asn Gln Arg Ala
    181              175                 180                 185
    183 tct ttc tca agc gta gga cct gag ctt gat gtc atg gca cct ggc gta  1025
    184 Ser Phe Ser Ser Val Gly Pro Glu Leu Asp Val Met Ala Pro Gly Val
    185          190                 195                 200
    187 tct atc caa agc acg ctt cct gga aac aaa tac ggg gcg tac aac ggt  1073
    188 Ser Ile Gln Ser Thr Leu Pro Gly Asn Lys Tyr Gly Ala Tyr Asn Gly
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RAW SEQUENCE LISTING DATE: 07/09/2001
PATENT APPLICATION: **US/09/500,135A** TIME: 13:21:49

Input Set : **A:\GC527C1seqlist.txt**
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```
     189     205                 210                 215
     191 acg tca atg gca tct ccg cac gtt gcc gga gcg gct gct ttg att ctt   1121
     192 Thr Ser Met Ala Ser Pro His Val Ala Gly Ala Ala Ala Leu Ile Leu
     193 220                 225                 230                 235
W--> 195 tct aag cac ccg aac tgg aca aac act caa gtc cgc agc agt tta nnn   1169
W--> 196 Ser Lys His Pro Asn Trp Thr Asn Thr Gln Val Arg Ser Ser Leu Xaa
     197                 240                 245                 250
     199 aac acc act aca aaa ctt ggt gat tct ttc tac tat gga aaa ggg ctg   1217
     200 Asn Thr Thr Thr Lys Leu Gly Asp Ser Phe Tyr Tyr Gly Lys Gly Leu
     201             255                 260                 265
     203 atc aac gta cag gcg gca gct cag taa aacataaaaa accggccttg         1264
     204 Ile Asn Val Gln Ala Ala Ala Gln
     205         270                 275
     207 gccccgccgg ttttttttatt tttcttcctc cgcatgttca atccgctcca taatcgacgg 1324
     209 atggctccct ctgaaaattt taacgagaaa cggcgggttg acccggctca gtcccgtaac 1384
     211 ggccaagtcc tgaaacgtct caatcgccgc ttcccggttt ccggtcagct caatgccgta 1444
     213 acggtcggcg gcgttttcct gataccggga gacggcattc gtaatcggat c           1495
     216 <210> SEQ ID NO: 2
     217 <211> LENGTH: 382
     218 <212> TYPE: PRT
     219 <213> ORGANISM: Bacillus amyloliquefaciens
     221 <220> FEATURE:
     222 <221> NAME/KEY: VARIANT
     223 <222> LOCATION: (163)...(163)
     224 <223> OTHER INFORMATION: Xaa = Asn or Pro
     226 <220> FEATURE:
     227 <221> NAME/KEY: VARIANT
     228 <222> LOCATION: (164)...(164)
     229 <223> OTHER INFORMATION: Xaa = Pro or Asn
     231 <220> FEATURE:
     232 <221> NAME/KEY: VARIANT
     233 <222> LOCATION: (167)...(167)   (168)...(168)
     234 <223> OTHER INFORMATION: Xaa = Asn or Asp
     236 <220> FEATURE:
     237 <221> NAME/KEY: VARIANT
     238 <222> LOCATION: (195)...(195)
     239 <223> OTHER INFORMATION: Xaa = Ala or Ser
     241 <220> FEATURE:
     242 <221> NAME/KEY: VARIANT
     243 <222> LOCATION: (196)...(196)
     244 <223> OTHER INFORMATION: Xaa = Ser or Ala
     246 <220> FEATURE:
     247 <221> NAME/KEY: VARIANT
     248 <222> LOCATION: (205)...(205)
     249 <223> OTHER INFORMATION: Xaa = Ala or Asp
     251 <220> FEATURE:
     252 <221> NAME/KEY: VARIANT
     253 <222> LOCATION: (206)...(206)
     254 <223> OTHER INFORMATION: Xaa = Asp or Ala
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Asp is at 167 (all next page)

RAW SEQUENCE LISTING DATE: 07/09/2001
PATENT APPLICATION: **US/09/500,135A** TIME: 13:21:49

Input Set : **A:\GC527C1seqlist.txt**
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256 <220> FEATURE:
257 <221> NAME/KEY: VARIANT
258 <222> LOCATION: (265)...(265)
259 <223> OTHER INFORMATION: Xaa = Thr or Ser
261 <220> FEATURE:
262 <221> NAME/KEY: VARIANT
263 <222> LOCATION: (266)...(266)
264 <223> OTHER INFORMATION: Xaa = Ser or Thr
266 <220> FEATURE:
267 <221> NAME/KEY: VARIANT
268 <222> LOCATION: (358)...(358)
269 <223> OTHER INFORMATION: Xaa = Gln or Glu
271 <400> SEQUENCE: 2

```
272 Met Arg Gly Lys Lys Val Trp Ile Ser Leu Leu Phe Ala Leu Ala Leu
273   1               5                  10                  15
274 Ile Phe Thr Met Ala Phe Gly Ser Thr Ser Ser Ala Gln Ala Ala Gly
275              20                  25                  30
276 Lys Ser Asn Gly Glu Lys Lys Tyr Ile Val Gly Phe Lys Gln Thr Met
277          35                  40                  45
278 Ser Thr Met Ser Ala Ala Lys Lys Lys Asp Val Ile Ser Glu Lys Gly
279      50                  55                  60
280 Gly Lys Val Gln Lys Gln Phe Lys Tyr Val Asp Ala Ala Ser Ala Thr
281  65                  70                  75                  80
282 Leu Asn Glu Lys Ala Val Lys Glu Leu Lys Lys Asp Pro Ser Val Ala
283                  85                  90                  95
284 Tyr Val Glu Glu Asp His Val Ala His Ala Tyr Ala Gln Ser Val Pro
285              100                 105                 110
286 Tyr Gly Val Ser Gln Ile Lys Ala Pro Ala Leu His Ser Gln Gly Tyr
287          115                 120                 125
288 Thr Gly Ser Asn Val Lys Val Ala Val Ile Asp Ser Gly Ile Asp Ser
289      130                 135                 140
290 Ser His Pro Asp Leu Lys Val Ala Gly Gly Ala Ser Met Val Pro Ser
291 145                 150                 155                 160
W--> 292 Glu Thr Xaa Xaa Phe Gln Asp Xaa Asn Ser His Gly Thr His Val Ala
293                  165                 170                 175
294 Gly Thr Val Ala Ala Leu Asn Asn Ser Ile Gly Val Leu Gly Val Ala
295              180                 185                 190
W--> 296 Pro Ser Xaa Xaa Leu Tyr Ala Val Lys Val Leu Gly Xaa Xaa Gly Ser
297          195                 200                 205
298 Gly Gln Tyr Ser Trp Ile Ile Asn Gly Ile Glu Trp Ala Ile Ala Asn
299      210                 215                 220
300 Asn Met Asp Val Ile Asn Met Ser Leu Gly Gly Pro Ser Gly Ser Ala
301 225                 230                 235                 240
302 Ala Leu Lys Ala Ala Val Asp Lys Ala Val Ala Ser Gly Val Val Val
303                  245                 250                 255
W--> 304 Val Ala Ala Ala Gly Asn Glu Gly Xaa Xaa Gly Ser Ser Ser Thr Val
305              260                 265                 270
306 Gly Tyr Pro Gly Lys Tyr Pro Ser Val Ile Ala Val Gly Ala Val Asp
307          275                 280                 285
```

NO PAGE 7
PROVIDED
ON PRINTOUT

VERIFICATION SUMMARY DATE: 07/09/2001
PATENT APPLICATION: **US/09/500,135A** TIME: 13:21:50

Input Set : **A:\GC527C1seqlist.txt**
Output Set: **N:\CRF3\07092001\I500135A.raw**

L:147 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1
L:148 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1
L:151 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1
L:152 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1
L:155 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1
L:156 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1
L:159 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1
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L:176 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1
L:195 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1
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L:292 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:2
L:296 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:2
L:304 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:2
L:316 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:2